

AN ENVIRONMENT INCEPTION REPORT
FOR
SIGITE-MUKUS RURAL INTEGRATED DEVELOPMENT PROJECT

SUBMITTED BY:

MEMALO HOLDINGS LIMITED

P.O.Box 818

RABAU

East New Britain Province

TEL/FAX : 982-8817

AND

PROPONENT & DEVELOPER:

SUMAS TIMBER & DEVELOPMENT INTERNATIONAL

P.O.Box 6666

BOROKO

National Capital District

TEL. : 323-3028

FAX : 323-3029

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Acronyms

DEC	Department of Environment and Conservation
DoW	Department of Works
EIR	Environment Inception Report
EIS	Environment Impact Statement
EP	Environment Permit
LLG	Local Level Government
TA	Timber Authority
VOPs	Village Oil Palm

Glossary

Roadline TA	the term used in reference to the project area that will be developed into a roadline through a Timber Authority for Large Scale Roadline Clearance.
Agriculture TA	the term used in reference to the project area that will be leased and developed into oil palm plantations through a Timber Authority for Large Scale Agriculture Clearance.

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1. Introduction

The Environment Inception Report (EIR) is prepared after receiving a formal advice form Department of Environment and Conservation (DEC) after submitting notice of intention. The advice indicated that the proposed Sigite-Mukus Integrated Rural Development Project (Project) is a Level 3 (Sub-category 16.2) activity under the Environment Act 2000.

Submission of an inception report is required under Section 52 of the Environment Act for a proposed Level 3 activity prior to carrying out a detailed Environmental Impact Assessment and submitting an Environmental Impact Statement.

The inception report identify potential impacts and issues associated with the proposed activity and which will be documented in the environmental Impact Statement, after a detail environment impact assessment study is carried out.

1.1 Proposed Activity

Sigite-Mukus Integrated Rural Development Project is a proposed integrated agro-forestry project that will be established within the Central/Inland Pomio, West Pomio/Mamusi and Melkoi Local Level Government areas (Appendix 1) in Pomio District of East New Britain Province.

The proposed project is an initiative of Hon. Paul Tienstein, Minister for Trade and Industry and Member for Pomio Open. The Project has the complete backing of the resource owners, Central/Inland Pomio, West Pomio/Mamusi and Melkoi Local Level Governments (LLGs) as well as the Provincial and National Governments

The project is being advocated by the Memalo Holdings Limited, the Proponent and Landowner Company with representatives from three (3) main tribes (Mengen, Mamusi and Lote) that represent seven (7) landowner groups of Central/Inland Pomio, West Pomio/Mamusi and Melkoi forest area.

The Directors of the Memalo Holdings Limited are: -

John Parulria	Chairman
Joe Tali	Vice Chairman
Augustine Roang	Director
Mark Kensonga	Director
Bernard Longalive	Director
Leo Tensiomana	Director

The project consists of two (2) components: -

- (a) *Component (1):* Construction of approximately 178 km road that will connect the existing road at Mukus River (Melkoi) to Sigite (Central/Inland Pomio) under a Timber Authority for Large Scale Road line, and
- (b) *Component (2):* Land Clearance for oil palm plantation from 5 km inland from the shoreline under a Timber Authority for Agricultural Clearance.

The cost of funding the 178 km road from Mukus River (Melkoi) to Sigite (Central/Inland Pomio) under a Timber Authority for Large Scale Road line is very high and uneconomical due to low density of productive forest within the proposed 40 meter corridor. Current resource data indicated that only 60 km out of 178 km has productive forests. This is equivalent to an estimated total volume of 6,000 m³ of logs, which is not economical to sustain the high operating costs of establishing the road infrastructure including construction of bridges and culverts.

In order for the integrated agro-forestry proposal to be economically viable, Memalo Holdings Limited is also applying for a Timber Authority for Agriculture Clearance. This means that log extraction through selective logging would occur prior to land clearance of selected sites within the project area (Agriculture TA) for establishing oil palm plantations (large plantations and village oil palm set-ups). Revenue from log exports set aside as Infrastructure Fund (K2.00/m³) will be used in funding the completion of the 178 km road.

It is envisaged that land clearance for oil palm plantation would only occur at locations starting at 5 km to a distance of 10 km inland from the shoreline under a Timber Authority for Agricultural Clearance. The reason for this is that land areas at distance less than 5 km are not suitable for oil palm planting due to high salinity content of the soil.

Land would be cleared for oil palm after it has been selectively logged. Pockets of areas identified as having environmental significance (environmental constraints, buffer zones, etc.) would be preserved in accordance with PNG Logging Code of Practice and DEC requirements.

Selective logging under the Timber Authority for Agricultural Clearance may take up to twenty (20) years. Development of oil palm plantations and enrichment plantings of local commercial species would occur within logged-over areas after trees of economical value have been logged.

This approach is the only viable option available to Memalo Holdings limited in luring potential investors to invest in the project. The Landowner Company has successfully entered into an agreement with Sumas Timber & Development International Limited (Developer) to finance and develop the proposed Sigite-Mukus Integrated Rural Development Project.

Sumas Timber & Development International Limited has a currently IPA Registration No. I-40596 and it is also a registered Forest Industry Participant Reg. No. FI-01628.

1.2 Objective of Activity

The primary objective of the initiative by Memalo Holdings Limited is to bring development into Pomio District through the agro-forestry project and the incentive provided by the road network that will connect Pomio with Kokopo and Rabaul.

The road infrastructure will act as the catalyst for agricultural activities to flourish within the Central/Inland Pomio, West Pomio/Mamusi and Melkoi LLG areas and Pomio District. The integrated agro-forestry project will enable a road network to be constructed followed by establishment of oil palm plantations between Sigite (Central/Inland Pomio LLG) to Mukus River (Melkoi LLG). A nuclear oil palm plantation will be initially established at Rano since the site is currently under State lease and has an existing oil palm estate.

With a new road infrastructure in place, it is envisage that other cash crops such as vanilla, coffee, copra, cocoa and possible spices would thrive within the Central/Inland Pomio, West Pomio/Mamusi and Melkoi LLG and Pomio District as a whole because of market accessibility. Other business enterprises would also emerge to take advantage of the road network.

1.3 Socio-economic Impacts

The socio- economic impacts of the Sigite-Mukus Integrated Rural Development Project can assert a positive influence on the lives of the people or result in negative impacts when changes brought about by development is abused.

The socio -economic effects of the project on the Central/Inland Pomio, West Pomio/Mamusi and Melkoi LLGs and the Pomio District as a whole will be determine by the manner in which the people embrace the project and the benefit stream that will arise from this development.

1.3.1 Potential Negative Impacts

The negative impacts of the project will occur as a result of immigration into Central/Inland Pomio, West Pomio/Mamusi and Melkoi LLG areas by those from other LLGs in search of job and business opportunities. This may impose unnecessary burden on the Central/Inland Pomio, West Pomio/Mamusi and Melkoi LLGs and Pomio District in providing social services under the existing budgetary constraints. This scenario will be minimized or even averted due to the fact that most of the land within and adjacent to the project area are customary owned and settlement of non- landowners on traditional land will not be tolerated.

On the other hand the access to cash economy may result in the misuse of money through spending in luxury or other unnecessary items. There is also a potential for increase spending on alcohol, which will give rise to alcohol -related issues. Pomio District Administration in consultation with Central/Inland Pomio, West Pomio/Mamusi and Melkoi LLGs will develop strategy to address these social issues, should it materialized.

1.3.2 Potential Benefits

Pomio District will benefit from the project through improvements in infrastructures and social services (maintenance of schools, health centers, aid post, etc). Money generated from taxes and royalties and paid into the infrastructure funds (K2/m²) and Community Services Fund (K2/m²) will be used by Memalo Holdings Limited to fund these social services. Other community assistance projects will also be funded under similar programs.

This impact project will contribute directly towards poverty alleviation within the District by creating formal and informal employment for the population within the Pomio District and East New Britain Province.

1.4 Bio -physical Impacts

The potential bio-physical impacts of the proposed agro-forestry project will be diverse and are connected with the different stages in the development, from road construction and logging operation to establishment of oil palm plantation.

1.4.1 Road Construction

The construction of the road within the proposed road alignment will involve upgrading of existing and abandon roads in certain sections and construction of new segments in other sections of the road. During road construction bio- physical environment impacts will temporary occurs. These include discharge of sentiments into watercourses noise emission and solid waste disposal .The main impact will rise from water degradation due to discharge of sediments. The Developer will employ appropriate sediment control strategies during the construction work to minimize the temporary impact on surface waters.

Other environmental issues such as air emission, noise emission and solid wastes disposal will occur temporarily during construction phase of the road. These issues will be managed using appropriate environment management strategies including complying with relevant environmental guidelines issued by DEC.

1.4.2 Logging Operation

Logging operation will precede large scale land clearance for oil palm plantation, in the project area (Agriculture TA). The activity will take place 5 km inland from the shore due to soil salinity and occur up to another 10 km inland. Segments of the project area that have been previously logged or currently under agriculture cultivation will not be logged .Other areas that will not be logged are those classified as reserve due to "environmental constraints" or cultural importance and are prohibited under the PNG Logging Code of Practice.

The environmental impact of the logging operation will be pronounce in selected areas earmarked for oil palm plantation where logged-over area will be cleared to make way for oil palm plantations. Endemic flora and fauna species will be affected due to the vegetation clearance.

Another significant bio-physical impact will be degradation to water quality within the project area due to sediment runoff. This issue will be mitigated through establishment of buffer zones as required under the PNG logging Code of practice as well as in anticipation of the oil palm plantations that will be established thereafter.

Discharge of solid wastes, liquid wastes, aerial emission and noise pollution will also occur during logging operations. These issues will be minimized through implementation of a Waste management Plan that the Developer will develop. The management plan will prioritize the environment issues whilst identifying the appropriate environment management strategies including their monitoring program and the person responsible for the implementation of the plan.

1.4.3 Oil Palm Plantation

Selected logged-over sites within the project area will be clear-felled in order to establish oil palm plantation. The single most important issues associated with large scale land clearance is displacement of fauna species and complete removal of various species of flora and avifauna.

Other potential physical environment issues associated with establishment and upkeep of an oil palm plantation are: -

- (a) **WATER:** water quality degradation due to soil erosion, pesticide and fertilizers runoff and domestic and industrial wastewater discharges (sewage and palm oil effluent), etc.
- (b) **LAND:** land pollution due to chemical contamination, poor soil quality through excessive application of fertilizers, solid waste disposals, etc.
- (c) **AIR:** impact on air quality due to emission of hydrocarbons from motor vehicles/machinery and generator sets, incineration of combustible materials, emissions from palm oil mill, foul odor from landfills, odor from palm oil effluent treatment ponds and sewage treatment ponds, etc.
- (d) **NOISE:** noise pollution would arise from use and servicing of motor vehicles and machinery, generator set, etc.

These issues will be managed through establishment of buffer zones, compliance with environmental guidelines and codes of practices issued by DEC (Motor Vehicle/machinery Workshop/Fuel Storage, Palm Oil Processing Sanitary landfill and others). Relevant requirements in the environmental guidelines will be incorporated into the Waste management Plan for the oil palm activity. This will ensure that correct strategies are employed in the management of environmental risks associated with oil palm plantation and upkeep.

2. Purpose of the Development.

Sigite-Mukus Integrated Rural Development Project is primarily aimed at bringing development into the Pomio District of East New Britain Province. The Member for Pomio Open initiated the agro-forestry project with support from landowners from the Central/Inland Pomio, West Pomio/Mamusi and Melkoi LLG areas.

The agro-forestry project would entail development of oil palm plantations within Pomio District, which will provide long-term revenue for the District, the Province and the Country. In order to proceed with the oil palm development, a 178 km road will be constructed to link existing road at Mukus River (Melkoi) to Sigite gorge (Central/Inland). This important infrastructure will open up the Central/Inland Pomio, West Pomio/Mamusi and Melkoi LLG areas by linking Pomio District to Kimbe and Rabaul.

2.1 Purpose of Development

Through this impact project, the development goals of Pomio District under the District Development Plan would be fulfilled.

This would indirectly contribute towards achievement of broader Provincial and National Government Development Strategies. These development objectives are: -

1. Improve social services within Central/Inland Pomio, West Pomio/Mamusi and Melkoi LLGs and Pomio District through assistance in supporting schools, aid posts, teacher's houses, etc. Water tanks will be provided to ensure safe drinking water is available, villages next to Base Camps will benefit from free supply of electricity.
2. Provide employment during road construction, logging operation and the oil palm plantation. It is estimated that approximately 500 people will be employed in the above activity while an additional 50 will be engaged when the sawmill is operational. Indirect employment will also be created as well as self-employed through spin-off businesses. Employment opportunities created by the project will contribute towards reducing the poverty level of the local people.
3. Revenue generated from the logging operation will benefit the resource owners and the LLGs through establishment of the Reforestation, Agricultural, Infrastructure, Business Development and Community Services Funds. Resource owners, through the Landowners Company, will receive Timber Royalties and Premium payments. Provincial Government will benefit from the Provincial Government Grants while the National Government will receive Log Export Tax.
4. Spin-off businesses will also thrive as a result of the agro-forestry project. This includes fishing, garden crops, cash crops, PMV service and so on. Assistance will be provided in establishing Village Oil Palm (VOP) schemes. With an agriculture base, long-term revenue source for the resource owners, Pomio District and the Province is guaranteed.

2.2 Consistency with Government's Development Strategy

The proposed development will complement the National Governments Export-Driven Economic Recovery Policy, Sustainable Development Policy and National Forest Policy. The integrated rural development project is aimed at encouraging rural development through sustainable agricultural activity in the long term.

This project will also contribute towards attainment of Government's Poverty Alleviation Strategy and other related policies under the Government's Medium Term Development Strategy.

The means to achieving the Government's development goal within the Pomio District is through downstream processing and export of merchantable logs extracted from within the road corridor and the project area designated for oil palm development. In accordance with the Forest Policy, enrichment plantings will also be carried out using local commercial tree species. On the other hand, the road will provide an impetus for economic growth due to oil palm development in Pomio District. Market accessibility to Kokopo and Rabaul will promote growth in other cash crops such as vanilla, coffee, copra, cocoa and spices.

The agro-forestry project will also bring to fruition the East New Britain provincial road works program by linking Pomio District with Kokopo and the port of Rabaul. Improvement in the social services within Pomio District will become apparent as a result of the road infrastructure and the revenue generated from logging and oil palm activity, in the long term. This outcome is not currently possible due to limited budgetary allocations given annually to East New Britain Provincial Government under the National Government budgetary process.

Due to the complementary nature of this agro-forestry project in driving Government's policies and its impact on development within the Pomio District, the Cabinet has yet to endorse the project once all the technical requirements are completed. Other Government Agencies, including the Minister for Environment and Conservation, will also give their indication in writing to support the project.

2.3 Project Development Benefits

The agro-forestry project will provide significant boost to socio-economic development in Central/Inland Pomio, West Pomio/Mamusi and Melkoi LLG areas and Pomio District. Development benefits that will be derived from the project include employment benefits, spin-off business and infrastructures like schools, aid posts, roads and bridges, and water supplies. Electricity will be provided to Unung, Drina and Rano due to the close proximity of these villages to the proposed Base Camps.

The financial benefits from the logging operation will be immediate compared to the financial returns from oil palm plantations. Benefits that will be generated during the log extraction from the road corridor and the project area (20 years period) are described below.

1. Projected Revenue

(a) Export Round Log sales	- K2,953,016,000
(b) Sawm Timber sales	- K 563,757,600
Total	- K3,516,773,600

2. Beneficiaries

Recipients	Amount
(a) Landowners	
Timber Royalties - (K10.00/m ³)	- K50,000,000
Premium Payments - (K4.00/ m ³)	- K26,400,000
Sub-Total:	- K76,400,000
(b) Provincial Government	
Provincial Government	
Derivation Grant (K0.50 of export vol.)	- K44,295,240
Sub-Total:	- K44,295,240
(c) Production and Administration Cost	
(Direct cost & Total overheads)	- K20,000,000
Sub-Total:	- K20,000,000
(d) Development Fund	- K47,500,000
Sub-Total:	- K47,500,000
(e) National Government	
Log Export Tax (K62.20)	- K341,528,000
Corporate/With-holding Tax	- K 12,251,054
Sub-Total:	- K353,779,054
(f) Management Fee	
(K1.50 of export vol.)	- K6,600,000
Sub-Total:	- K6,600,000
(g) Project Net Profit	- K2,989,799,306
Sub-Total:	- K2,989,799,306
TOTAL AMOUNT:	- K3,538,373,600

3. Viability of the Project

3.1 Compatibility of Project with National Government Development Strategy

Sigite-Mukus Integrated Rural Development Project is compatible with National Governments Export-Driven Economic Recovery Policy, Sustainable Development Policy, National Forest Policy and the Government's Poverty Alleviation Strategy and other related policies under the Medium Term Development Strategy. The compatibility of the project is yet to be realized when NEC will eventually give its blessing on the project.

The project will bring about development in Pomio District through a sustainable agricultural activity. The agro-forestry development activity will open up Pomio District, presently classified by PNG-AusAID Study as one of least developed District, to economic growth through oil palm and other cash crops such as vanilla, coffee, copra, cocoa and spices. Other enterprises will also thrive as a result of the road network and accessibility to markets in Kimbe and Rabaul.

3.2 Compatibility of Project with Provincial & District Development Strategy

The project is an initiative of Hon. Paul Tienstein, Minister for Trade and Industry and Member for Pomio Open with support from landowners within the Central/Inland Pomio, West Pomio/Mamusi and Melkoi LLG areas of Pomio District. The project is being advocated by Memalo Holdings Limited with representation from one hundred & twenty-one (121) land-owning clans grouped into seven (7) timber concessions within the project area.

The agro-forestry project will assist in bringing to reality the Provincial Government's provincial road program by linking Pomio District with Kimbe and Rabaul. Improvement in the social services within Pomio District will become apparent as a result of the road infrastructure and revenue base from oil palm activity. As such, the East New Britain Provincial Government has been supportive of the effort by Memalo Holdings Limited in promoting the agro-forestry project in the District.

3.3 Economic Feasibility

The project is economically feasible as an integrated agro-forestry project but not as a stand-alone oil palm project. This is because the amount of money to be expended by the Developer on construction of the 178 km road will be recouped from sale of merchantable logs salvaged during road construction and from selective logging within the project area leased under an Agriculture Timber Authority (Agriculture TA). Revenue from sale of logs set aside in the Infrastructure Fund will be used in completing the road infrastructure.

Revenue from oil palm would not be possible until three (3) to five (5) years after planting through a joint venture partnership between the Landowner Company and the Developer to process the fresh fruit bunches into palm oil for overseas market.

In order to ensure that there are sufficient funds to offset the operational costs of road construction, it is essential that selective logging is conducted concurrently in the project area prior to conversion of selected areas into oil palm plantation and village oil palm schemes.

3.3.1 Forest Resource Volume.

The forest resource survey of the project area was conducted once, by PNG Forest Authority some years ago with another survey yet to come. The continuous strip-line method was used during the survey and will be used in future surveys.

Forest Resource

A summary of the forest resource volume within the project area that will be extracted and sold as finished timber products or as round logs to recover the cost of road construction is tabled below:

Table 1 - Forest Resource Volume

Description	Quantity
Gross Area	286,180 hectares
Net Area	200,000 hectares
Average Stand Density	25m ³ per hectares
Gross Volume	7,154,500 m ³
Less 30% allowance for sampling error and defects	2,146,350m ³
Net Volume	5,008,150m ³

NOTE: Main species are: Terminalia, Tine, Wau Birch, Dillenia, Red Casuarina, Calophyllum, Water Gum, Labala, Walnut, Malin, Rosewood, Pencil Cedar, Planchonella and Amlerist.

The harvesting rate is calculated with consideration of developing a sustainable logging operation for up to 20 years, with enrichment planting of fast-growing local tree species.

Income generated from the sale of finished timber products and round logs in the first five (5) years of operation would be used to establish the oil palm plantations and complete the construction of the 178 km road line.

The summary of the logging schedule and log budget is given in Tables 2 and 3, below.

Table 2 - Schedule of Log Harvest

Project Year	Proposed Annual Cut (m ³)	Total Volume (m ³)
PY 1-5	250,000	1,250,000
PY 6-10	220,000	1,100,000
PY 11-20	190,000	1,900,000
Total	660,000	4,250,000

Table 3 - Schedule of Log Budget Utilization

Project Year	Export Volume (m ³)	Sawmill Input (m ³)	Total Volume (m ³)
PY 1-5	1,250,000	Nil	1,250,000
PY 6-10	1,100,000	150,000	1,250,000
PY 11-20	1,900,000	650,000	2,550,000
Total	4,250,000	800,000	5,005,000

During the first year until the fifth (5) year of operation, only round logs would be exported and revenue generated would be used to offset operational expenses apart from payment of royalties and taxes. The Sawmill will be established at Unung during the fifth (5) year of operation. Most of the log output in the first three years by portable sawmill will be used in building camp facilities as well as for consumption in the project area.

Markets

Major overseas markets for the tropical round logs are Malaysia, Taiwan, China, Japan and possibly South Korea. On the other hand, sawn timber products would be sold locally as well as exported to Taiwan, Australia, South Korea and New Zealand.

The expected prices for the tropical round logs and finished timber products are summarized below.

(a) Round Logs

• Annual Export Volume (average)	-	250,000 m ³
• FOB Price (average)	-	K200.00 per m ³

(b) Sawn Timbers

• Annual Input Capacity	-	30,000 m ³
• Annual Output (45% recovery)	-	13,500 m ³
• Average Price	-	K400.00 per m ³

3.4 Project Financing

The agro-forestry project will involve substantial capital investment. The cost of construction of the 178 km or road line (including bridges and culverts) is substantial and the Developer will fund the initial cost. The estimated capital investment in the logging operation including purchase of logging equipment & machinery, establishment of sawmill, base camp and working capital, etc. is approximately K50, 000,000.00. The money will be sourced by the Developer and injected into the Sigite-Mukus Integrated Rural Development Project.

Financing for the agro-forestry project will be sourced from Bank of Islam Limited of Malaysia (Appendix 8).

3.5 Technical Expertise

The Developer has technical expertise and skills in construction of logging roads, which essentially complies with the Department of Works (DoW) standards for roads and bridges. Prior to commencement of construction work on the 178 km road, DoW would be consulted to ensure that the 178 km road line (including bridges and culverts) is constructed in accordance with the required standards.

The Developer also has a vast knowledge and experience in logging operation and has current operations at East and West Sepik Provinces and Vanapa in Central Province. These knowledge and skills would be utilized in ensuring that the salvage logging operation within the road corridor as well as selective logging within the project area is carried out in accordance with the PNG Logging Code of practice and other conditions impose by DEC.

For development of oil palm plantation and village oil palm blocks, the Developer will engage rural extension officers from East New Britain to assist with establishment of the plantation and conduct rural outreach programs. Skilled oil palm plantation managers will be recruited from Malaysia to oversee the planning and development of the oil palm plantation on selected sites within the project area with the nuclear oil palm estate at Rano.

4. Description of Proposed Development.

4.1 Overview of Activity

Sigite-Mukus Integrated Rural Development Project is an integrated agro-forestry project that will be established within the Central/Inland Pomio, West Pomio/Mamusi and Melkoi LLG areas in Pomio District of East New Britain Province. The project area comprised a total land area of 286, 180 hectares of which 200,000 hectares contain productive forest with an average stand density of 25m² per hectare.

The proposed project is an initiative of Memalo Holdings Limited which comprised of membership from seven (7) landowner groups from Central/Inland Pomio, West Pomio/Mamusi and Melkoi LLG areas. The landowner initiative is intended to open up Pomio District to investment and development opportunities through construction of a road network linking Pomio with Kimbe and Rabaul. The existence of a road infrastructure will be followed concurrently by setting up of oil palm plantations and village oil palm schemes. Other cash crops and business ventures will piggyback on this agro-forestry project and promote economic growth within Pomio District and East New Britain Province.

4.2 Road

The first phase of the agro-forestry project will be the construction of approximately 178 km road that will connect the existing road at Mukus River (Melkoi) to Sigite gorge (Central/Inland Pomio) under a Timber Authority for Large Scale Road line.

The cost of funding the 178 km road from Mukus River to Sigite gorge under a Timber Authority for large Scale Road line is very high and uneconomical due to low density of productive forest within the proposed 40-meter corridor. Current resource data indicated that only 60 km out of 178 km road corridor has productive forests. This is equivalent to an estimated total volume of 6,000 m³ of logs. This is not economical to sustain the high operating costs of the road infrastructure including construction of bridges and culverts.

Memalo Holdings Limited and the Developer Sumas Timber & Development International Limited may solicit assistance from aid-donors including the State to assist with co-funding the construction costs of the bridges. This is because the road will eventually be converted into a national road and managed by the State. The project is economically feasible only as an integrated agro-forestry project but not as a stand-alone oil palm project. The rationale is that investment capital expended by the Developer on construction of the 178 km road will be recovered from sale of merchantable logs salvage during road construction and from selective logging of the project area (Agriculture TA) prior to conversion of selected sites into oil palm plantation.

During construction of the road and while logging operation is progressing, the road would be regarded as a logging road. Upon completion, a formal process will be followed using certification process by Department of Works to transfer and reclassify the road as a national road for supervision and maintenance by the National Government.

4.3 Logging

In order for the integrated agro-forestry proposal to be economically viable, Memalo Holdings Limited is also applying for a Timber Authority for Agricultural Clearance. Merchantable logs within the project area would be extracted through selective logging prior to land clearance at selected sites for oil palm plantation (estate and village oil palm set-ups).

Selected sites within the project area will be cleared for oil palm plantations after it has been selectively logged. Pockets of areas identified as having ecological significance or classified as "environmental constraint areas" would be preserved in accordance with the requirements imposed by DEC as well as those specified in the PNG Logging code of Practice.

The selective logging under the Timber Authority for Agricultural Clearance will take up to twenty (20) years. During the period, enrichment plantings will be carried out using local timber species. The logging schedule for the project area is summarized in Table 4.

Table 4 - Logging Schedule

Project Year	Proposed Annual Cut (m ³)	Total Volume (m ³)
PY 1-5	250,000	1,250,000
PY 6-10	220,000	1,100,000
PY 11-20	190,000	1,900,000
Total	660,000	4,250,000

The logging operation will require establishment of key infrastructures to support the operation. All infrastructures described in Table 5 will be located within the project area.

Table 5 - Infrastructure for Logging Operation

Infrastructure	Locations
Base Camps	Unung, Drina and Rano
Logging Camps	Unung, Drina, and Rano
Export Site	Unung, Drina and Rano

The integrated agro-forestry project as described is the only economically viable option available to Memalo Holdings Limited to lure investors to invest in the project. Consequently, the Landowners Company has successfully entered into an agreement with Sumas Timber & Development International Limited to finance and develop the proposed Sigite-Mukus Integrated Rural Development Project.

4.4 Oil Palm Plantation

Oil palm has proven to grow well in the island of New Britain due to favourable soil and climatic conditions. A large concentration of oil palm estates is currently located in the West New Britain Province.

Oil Palm plantations will be established at selected locations within the project area, starting at 5 km to a distance of 10 km inland from the shoreline. Land areas at distances less than 5 km are not suitable for oil palm planting due to high salinity content of the soil.

Selected logged-over sites within the project area will be clear-felled in order to make way for oil palm plantation. Prior to commencement of clear-felling operation, the Developer will mark out reserve areas (species protection, environmental constraints and buffer zones) where clear-felling and vegetation clearance will be prohibited. This is an important planning phase prior to large-scale vegetation clearance and DEC would be consulted during the planning process.

The initial phase of establishment of oil palm plantation will require construction of certain infrastructures to support the operation. Other facilities including a sixty (60) Fresh Fruit Bunch (FFB) per hour Palm Oil Mill will be constructed at a later stage to allow to onsite processing of fresh fruits into palm oil. These infrastructures are described in Table 6, below.

Table 6 - Infrastructure for Oil Palm Plantation and Processing

Infrastructure	Locations
Accommodation Camps	Unung, Drina and Rano
Nursery	Rano
Palm Oil Mill	Rano
Export Site	Rano

Oil palm is a renewable resource and will provide sustainable revenue source to landowners through introduction of village-oil-palm blocks.

A large oil palm plantation will be set up at Rano under a "lease-leaseback arrangement". This arrangement basically involves the State leasing customary land from landowners and leases the land to the Developer. The land is developed into an oil palm estate and managed independently by a Developer. At the end of the tenure, the Developer then release the land and the plantation back to the customary landowners.

However, on agreement by the parties the plantation lease can be renewed and managed by the Developer for the next term of the lease. The Developer will manage the oil palm mill that will be established at the later stage in the development phase. The mill will purchase fresh fruit bunches from the village-oil-palm blocks and the larger plantation estates.

Table 7- Oil Palm Plantation and Processing Development Schedule

Activities	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Y E A R (1)												
Nursery site preparation												
Nursery irrigation and bag filling												
Arrival of seeds and sowing												
Slash secondary growth												
Spray vegetation												
Re-spray vegetation												
Road lining and terracing												
Y E A R (1)												
Transplant and spraying nursery palms												
Roads, bridges & culverts												
Drains												
Terracing												
Sowing cover crops seeds												
Lining, holing and planting												
Fortnightly weeding												
Y E A R (2)												
Complete planting												
Monthly weeding												
Roads & culverts												
Drains												
Fertilizer												
Y E A R (3)												
Weeding												
Roads & culverts												
Drains												
Pruning and sanitation												
Fertilizer												
Harvesting												

5. Development Timetable.

Sigite-Mukus Integrated Rural Development Project was scheduled to commence in the final quarter of 2006. However, there was a slight delay due to setbacks in obtaining relevant State approvals including an Environment Permit from DEC and Timber Authorities from PNG Forestry Authority. Memalo Holdings Limited will submit the Timber Authority applications for Large Scale Road line and Agriculture Clearance as soon as an Environment Permit is issued by DEC.

Due to this delay, the tentative Development Schedule for the agro-forestry project is now scheduled to commence in 2007. Below is the timetable for the development activity but this is dependent on DEC and PNG Forest Authority issuing the relevant permits on time.

Table 8- Project Development Schedule

Description	2 0 0 6											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1. EP issued												
2. TA issued												
	2 0 0 7											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
3. Road												
2007 - 2018												
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
4. Logging												
- Base Camp												
- Wharf/Jetty												
- Sawmill												
- Plantation												
- Logging Operation												
2019 - 2027												
	2019	2020	2021	2022	2023	2024	2025	2026	2027			
2007 - 2017												
5. Oil Palm	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
2019 - 2027												
5. Oil Palm												
- Nuclear Estate												
- Oil Palm Mill												
- VOPs												
2019 - 2027												
	2019	2020	2021	2022	2023	2024	2025	2026	2027			

NOTE: EP- Environment Permit From DEC; TA- Timber Authority from PNG Forest Authority; VOPs - Village Oil Palms

6. Bio-Physical Environmental Issues.

Bio-physical environmental impacts are an inevitable result of development activities. The commencement of operations on the proposed Sigite-Mukus Integrated Rural Development Project will no doubt generate bio-physical impacts on the environment.

However, it is the Developer's responsibility to ensure that appropriate management measures are implemented to reduce these impacts to an acceptable level. Some of these potential bio-physical issues that are likely to occur and the management strategies that the Developer will employ to manage these issues are discussed below.

The potential issues will be researched in detail during the impact assessment study and presented in the Environment Impact Statement.

6.1 Physical Environment

Physical environment consist of the land, water and air and development activity such as the proposed agro-forestry has the potential to impact on these segments of the environment.

6.1.1 Air Emission

Road Construction

Issue

Air emission in the form of dust will occur during the dry season. Dust generated will be localized and will not be concern until the road works passes by villages. Exhaust emission from machinery used in the road construction will also occur. Again the emission will be localized but will only become a concern when road works approach villages.

Management

Air emission from the dust will be controlled through spraying with water. With regular rain period all-year around, dust emission will be easily controlled and will not become an issue. Regular servicing of vehicles and machinery will ensure that exhaust air emission is minimized. However, any exhaust emission that occurs will be localized and occur during the day only when road works are in progress. This will disperse quickly and will not pose an environment or health concern.

Logging Operation

Issue

Air emission in the form of dust will also be generated during dry season during construction of base camps, logging roads as well as during logging operation. The emission will be localized and would not pose a concern.

Exhaust gases from machinery, generator set, vehicles and air emission from burning of combustible materials will occur during the logging operation. However, the air emissions will all be localized and easily dispersed due to the pristine air quality within the project area.

Management

Air emission from dust will controlled through spraying with water. Again, with regular rain period all-year around dust emission will be easily controlled and will not be an issue.

Regular servicing of vehicles and machinery will also ensure that exhaust air emission is minimized. Exhaust emission that is produced will be localized and only occur during the day. Emission from the generator set and the burning of combustible materials will be located at sufficient distance from residential and office areas. It is expected that air emission from these sources will disperse quickly and will not pose an environment or health concern.

Oil Palm Plantation

Issue

Air emission in the form of dust will be generated during dry season when oil palm plantation site is cleared for planting and during construction of access roads. However, the issue is expected to be localized and not pose a concern. Exhaust gases will also be released from machinery used in land preparation of oil palm plantation. The emission will also be localized and easily dispersed.

Management:

Air emission from dust will be controlled through spraying with water. With regular rain period all-year around, dust emission will be easily controlled. Regular servicing of vehicles and machinery will ensure that air emission is minimized. However, exhaust emission that are generated from the machinery will be localized and occur during the day only. Emission from these sources will disperse quickly and will not pose an environment or health concern.

6.1.2 Water Extraction & Wastewater Discharge

Road Construction

Issue

Water requirement of domestic use during the construction of the 178 km road will be sourced from nearby streams. Permit for extraction of water will be obtained from DEC before start of construction work. Water for drinking and cooking will be transported to the construction camp. Domestic wastewater in the form of sewage and kitchen wastewater will also be generated. The quantity generated will be minimal and easily disposed off.

Management

Sewage will be disposed off through temporary bush toilets (log-drop). Toilets will be constructed at sufficient distance from any nearby watercourse. Wastewater from the kitchen will be directed into a grease trap before discharging onto vegetated area.

Logging

Issue

Water requirement for domestic use at Base Camps will be extracted from nearby streams to supplement water collected from rain-catchment tanks. Permit for water extraction will be obtained from DEC before commencement of logging activity. Water extracted will be treated before being distributed to residences and offices for consumption.

Domestic wastewater will also be produced from Base Camps, as sewage and kitchen wastewater. Quantity of domestic wastewater generated will be substantial and therefore requires adequate treatment before disposal. Rainfall runoff from exposed areas will transport high sediment load into surface waters. The flow of surface waters may also be altered as a result of deposition of sediment in stream-beds.

Management

Septic tanks will be constructed to treat all domestic wastewater from the Base Camps before being discharge through absorption trenches. Contaminated rainfall runoff will be managed by separating clean runoff from contaminated areas (workshop, fuel tanks, etc.).

Oil-water separator and sediment traps will be constructed at strategic locations to minimize risk of contaminated runoff. Sediment load in rainfall runoff will be reduced through growing of grass to cover exposed areas and minimize soil erosion.

Oil Palm Plantation

Issue

Water requirement for palm irrigation will be extracted from nearby streams. Permit for extraction of water will be obtained from DEC before establishment of oil palm plantation.

Wastewater generated will be in the form of excess water runoff after irrigation and during rainfall events. The rainfall runoff may contain sediments, fertilizer and pesticides and requires adhering to safe practices for application of pesticides and fertilizers to reduce the risk of surface water pollution due to chemical runoff.

Management

Rainfall runoff will be reduced through planting of a legume cover-crop and by retaining natural vegetation along rows of palms. The risk of chemical runoff will be avoided by applying pesticides and fertilizers during the dry season only and not during wet season.

6.1.3 Solid Waste & Land Contamination

Road

Issue

Small quantities of industrial and domestic solid wastes will be produced during construction of the 178 km road. Domestic solid waste will include empty tin cans cardboard boxes plastic wrappers etc. These wastes do not pose a risk to the environment and can be easily managed. Industrial solid wastes generated will also be small and produced from minor mechanical repair (change oil filter, battery, etc) that may be carried out in the field.

Management

Domestic solid waste from the temporary construction camp will be managed through regular collection and disposal in a temporary land fill conducted in accordance with the Environment Code of Practice for Sanitary Land fill Sites. Industrial waste will be minimized by ensuring regular servicing of vehicle and machinery. Industrial solid waste produced will be disposed off at the temporary landfill.

Logging

Issue

Most of the domestic solid wastes generated during the logging operation will be at Base Camp. Wastes will be produced from kitchen during meal preparation and from office operations. Environmental risks associated with domestic wastes are not significant if adequately managed. This is because domestic solid wastes are inert or biodegradable in nature. Small quantity of industrial solid wastes will also be produced. The main source of the industrial solid wastes will be the workshop activity (servicing, change oil filter, battery, etc).

Management

Domestic solid wastes from the base Camps will be managed through regular collections and disposal in a sanitary landfill, which will be constructed and managed in accordance with the Sanitary Code of Practice for Sanitary Landfill Sites.

Quantity of solid industrial wastes generated during the logging operations will be small. Management measures for this waste includes minimizing the generation of hazardous wastes by ensuring regular servicing of vehicle and machinery at the workshop and complying with the requirements in Environmental Code of Practice for Motor Vehicle/ Machinery Workshop & Fuel Storage sites.

Oil Palm Plantation

Issue

Small quantity of domestic and industrial solid wastes will be produced during establishment of oil palm plantations. Wastes generated will include empty tin cans, cardboard boxes, plastic wrappers etc. Empty pesticide and fertilizer containers will also be produced.

Management

Domestic and industrial solid wastes from establishment of the oil palm plantation will be managed through regular collection and disposal in a sanitary landfill that will be constructed in accordance with Environmental Code of Practice for Sanitary Landfill Sites.

6.1.4 Noise Emission

Road

Issue

Level of noise generated during constructions of the 178 km road will be high near villagers as a result of the heavy machinery that will be used in the road construction. However, the noise level will be localized and only occur during the day.

Management

The level of noise generated from the machinery and generator sets will be minimized through providing buffer distance, regular servicing of heavy machinery and vehicles and using muffler silencer on heavy machinery, where appropriate.

Oil Palm Plantation

Issue

The noise level during land preparation for oil palm plantation will be high as a result of heavy machinery that will be used. However, the noise generated will be localized and only occur during the day.

Management

Noise generated during land preparation will be minimized through regular servicing of heavy machinery and vehicles, and using muffler silence on heavy machinery.

6.2 Biological Environment

Biological environment is described as comprising primarily of flora, fauna and avifauna and their interaction with the physical environment within their ecosystem. Development activity such as the proposed agroforestry activity has the potential to impact on the biological environment. This is discussed briefly below but a detail description of the impact will be provided in the Environment Impact Statement after a comprehensive biological survey is conducted, both in the field and through literature search.

6.2.1 Flora

Flora composition of the project area is consistent with those found elsewhere on the island of New Britain. A detail description of the flora characteristics of the project area will be provided in the Environment Impact Statement after a biological survey of the project area is completed.

Road

Vegetation within the road corridor (178 km x 40m) will be cleared prior to road construction work. The vegetation removed will not be for the entire length of the 178 km road since 30% of the road is already in existence but in disrepair. Only about 70% of the 178 km road will be cleared for road construction. During construction of the road, buffer distances with vegetation cover will be retained at river-crossing where bridges and culverts will be constructed.

Logging

Selective logging would be used in extraction of merchantable logs within the project area prior to conversion of selected sites into oil palm plantation. However, logging operation will not take place within reserves that area identified as areas of "Environmental constraints" or protected areas where protected specie(s) are identified. Buffer zones will be established near watercourses, reserves and other special purpose areas (cultural sites, etc).

The Developer will ensure that logging operation complies strictly with the PNG Logging Code of Practice and any environmental requirements imposed by DEC in order that areas of significance within the project area are protected.

Oil Palm Plantation

Sites selected for oil palm plantation (nuclear estate and village oil palm schemes) will be clear-felled to allow for oil palm planting. After the detail biological survey, the Developer will be in a position to know if any threaten species are present within the project area. This information will be used as one for the crucial factors in deciding on suitable sites for establishing oil palm plantation.

During clear- felling of forest cover for oil palm plantation, the Developer will take into account buffer distances and areas of significance (environmental constraint, cultural sites, protected areas, etc.) and vegetation clearance operation will be prohibited in those areas. Wildlife corridor may also be established prior to establishment of oil palm plantations, if information collected during the biological survey indicated the need for establishing one.

6.2.2 Fauna

A number of threatened and endemic fauna species are found in East New Britain Province and the whole of New Britain Island. It is possible, that the biological survey may uncover a number of these threatened and endemic fauna species within the project area.

Where such specie(s) is located, appropriate management strategies will be developed in consultation with DEC to determine the level of protection that will be offered and the management plan for the specie. A buffer zone of appropriate distance will be established to allow adequate territorial boundary for the specie. Plants that the species utilize for its survival will also be identified and protected. The management measures will be put in place prior to the logging operation or clear-felling of logged-over areas for oil palm planting.

For scooping exercise, the fauna species recorded within East New Britain and which may be available within the project area are listed below. The list is not exhaustive but a representation of the diversity of fauna species available within the province and which may also be found within the project area. A detail list will be provided in the Environment Impact Statement after the biological study is completed.

Reptiles

The following reptiles have been recorded - New Guinea Fresh - Water Crocodile; Salt-water Crocodile; House Gecko; Green Angle-Head; Mangrove Monitor; Brown Four-fingered Skink; Skink, etc, Lizards; Snakes; pythons, etc.

Mammals

The following mammals species have been recorded - Tube-nosed Bat; Bare-backed Bate; Masked Flying-fox; Galliard's Flying-fox; Giant Flying-Fox; Spurred Horseshoe-bat; New Britain Bare-backed-bat; Rat; Javan Bentwing-bat; Common Cuscus.

Birds

The following birds species have been recorded - Glossy swift let; Singing starling; Metallic starling; Yellow faced myna; Pied coucal; Eclectus parrot; Eastern black-capped lorry; Rainbow lorikeet; Red flanked lorikeet; Buff-faced Pygmy-parrot; Island Imperial-pigeon; Torresian Imperial-pigeon; Brown Cuckoo-dove; Stephan's Dove.

7. Socio-Economic Issues.

Sigite-Mukus Integrated Rural Development project is an impact agro-forestry project driven by the Memalo Holdings Limited and Minister for Trade & Industry and Member for Pomio Open, Hon. Paul Tienstein, to bring socio-economic development into Pomio District. The agro-forestry project is the bases for the construction of the 178 km road network which will in-turn provide the catalyst for agricultural and other business enterprises to flourish in the District.

Although the socio-economic benefits of the project are enormous, there are social impacts that are also likely to occur after the project is established. These potential social impacts are discussed below. A detail assessment will be conducted during the social impact assessment study and the information documented in the Environment Impact Statement.

7.1 Group (A) Impacts

Group (A) Impacts are the social impacts that can be identified and addressed by the DEC approval process. These impacts occur as a direct result of adverse biophysical environmental impacts on the environment due to the development activity and which can be regulated by DEC.

7.1.1 Degradation in Air Quality

Although air emission for activities associated with the agro-forestry activity will occur, it is anticipated that the environment measures that the Developer will implement will adequately manage and reduce any air pollution concern on human health and the environment. Consequently, the social impact of air pollution within the project area will be negligible.

Issue

Air emission in the form of dust will occur during the dry season while road works on the 178 km road is in progress. Dust may become a concern when the road works approach villages. Other sources of dust include logging operation, where dust will be generated during construction of base camps, logging roads and during logging operation. Dust will also be generated when clearing vegetation for establishing oil palm plantation and construction of plantation access roads.

Exhaust emission will be produced from machinery that are used in the road construction and land preparation of oil palm plantation. Machinery, generator set and vehicles used during the logging operation are also sources of exhaust emissions. Burning of combustible materials at the Base Camp will also contribute towards air quality degradation in the project area.

Management

Dust produced from road construction, logging operation and establishment of oil palm plantations will mainly occur during the dry season. Therefore, emission of dust will be localized and easily dispersed. Where dust is an issue, the management measures that will be implemented will be spraying with water. With regular rain period all-year-round, dust emission will be easily controlled and will not become a socio-economic issue.

Regular servicing of vehicles and machinery will minimize exhaust emissions.

On the other hand, emission from the generator set and the burning of combustible materials will not have any environment or human health impacts since these pollution sources will be located at sufficient distance from residential and office areas. Therefore, air emission generated from these sources will be easily dispersed and will not pose any socio-economic concern.

7.1.2 Degradation in Water Quality

Degradation in water quality will inevitably occur as a result of the logging operation. Although buffer zones will be established along watercourses to reduce the impact of sediment in rainfall runoff, the impact on water quality will still occur. The Developer has committed to providing water supply to villages within the project as a contribution towards improving the health status of the resource owners. Villagers that will be directly affected will be given priority to ensure that they are provided with an alternative drinking water source.

Issue

Domestic wastewater (sewage and kitchen wastewater) in minimal quantity will be generated during construction of the 178 km road from Mukus River (Melkoi) to Sigite gorge (Central/Inland Pomio). However, a substantial quantity of domestic wastewater will be produced from the Base Camp due to the number of employees there.

Rainfall runoff from the exposed areas during road construction, logging operation and vegetation clearance for oil palm plantation will result in large quantity of sediment (dissolve and suspended solids) being discharged into surface waters. Sediment load in runoff has the potential to cause degradation in surface water quality and alter the flow regime of surface water as a result of deposition of sediment in stream-beds. Excess water runoff from oil palm plantation after irrigation and during rainfall events may also introduced fertilizer and pesticides into surface waters.

Management

Sewage generated during the road construction will be disposed off through temporary bush toilets (log-drop) which will be located away from the nearest watercourse. Wastewater from the kitchen will be directed into a grease trap before discharging onto vegetated area.

Septic tanks will be constructed to treat domestic wastewater produced in the Base Camp before discharging the treated effluent through absorption trenches. Rainfall runoff will be managed by separating clean runoff from contaminated areas (workshop, fuel tanks, etc.). Oil water separator and sediment traps will also be constructed at strategic locations to address contaminated runoff while grass will be planted to minimize soil erosion and sediment runoff during the wet season. On the other hand, the risk of pesticides and fertilizers in rainfall runoff from oil palm plantation will be avoided by not applying these chemicals during the wet season.

7.1.3 Increased Noise Levels

Noise emission will occur during the construction and operational phases of the agro-forestry project. However, the management measures that the Developer will put in place will reduce concern on noise levels during the development phases. As a result, the social impact of noise within the project area is expected to be negligible.

Issue

Noise generated during construction of the road may become a concern near villages. During logging operation, noise levels will be high as a result of use of heavy machinery in loading and unloading of logs. Generator sets and machinery workshop will also produce a lot of noise. Noise will also be produced from heavy machinery during land preparation for oil palm plantations.

Management

In most instances, the level of noise generated will be localized and only occurs during the day. Noise from use of heavy machinery will be minimized through regular servicing of heavy machinery and vehicles, and using muffler silencer. Adequate buffer distance will also be allowed to reduce the impact of stationary noise sources on residential areas. On the whole, it is anticipated that noise produced within the project area will not cause any socio-economic impact compared to development activities in urban areas.

7.1.4 Land Contamination

Land or soil contamination will occur during the development of the Sigite-Mukus Integrated Rural Development Project due to either chemical pollution (e.g. fuel spillage, waste oil, etc) or waste disposal (landfill sites). However, it is anticipated that land contamination will not cause any significant concern since the risk of chemical pollution (oil or fuel spillage and fertilizer/pesticide application) will be minimized. This will be achieved through compliance with the Environmental Code of Practice for Vehicle/Machinery Workshop and Fuel Storage Site and observing recommended practices when applying fertilizers and pesticides in oil palm plantations. On the other hand, landfills will be constructed in accordance with the Environmental Code of Practice for Sanitary Landfill Sites.

Therefore, the risk of social impact arising from land contamination within the project area will be minimal.

Issue

Small quantities of industrial and domestic solid wastes will be produced during construction of the 178 km road. Domestic solid wastes will include empty tin cans, cardboard boxes, plastic wrappers, etc while industrial solid wastes generated will be from minor mechanical repair (change oil filter, battery, etc.) that may be carried out in the field.

Most of the domestic solid wastes generated will be at the Base Camp. Wastes will be produced from kitchen during meal preparation and office operations. Environmental risks associated with domestic wastes are not significant if adequately managed. This is because domestic solid wastes are inert or biodegradable in nature. Small quantity of industrial solid wastes will also be produced. The main source of the industrial solid wastes will also be produced. The main source of the industrial solid wastes will be the workshop activity (servicing, change oil filter, battery, etc.).

Small quantity of domestic and industrial solid wastes will also be produced during establishment of oil palm plantations. Wastes generated will include empty tin cans, cardboard boxes, plastic wrappers, etc. Empty pesticide and fertilizer containers will also be produced.

Management

Domestic solid wastes from the temporary construction camp and the logging Base Camps will be managed through regular collection and disposal in a sanitary landfill that will be constructed in accordance with Environmental Code of Practice for Sanitary Landfill Sites.

Combustible solid wastes including papers, cardboard boxes, etc will be burnt in designated incineration site, which will be located away from residential areas.

The quantity of solid industrial wastes generated will be small. Management measures for these wastes will include minimize generation of hazardous wastes by ensuring regular servicing of vehicle and machinery at the workshop and by complying with the Environmental Code of Practice for Motor Vehicle/Machinery Workshop & Fuel Storage sites.

7.1.5 Loss of Food Sources

Issue

The villagers within the project area rely on their forest resources as a significant source of food apart from fishing and subsistence gardening. Commencement of selective logging within the project area will affect the availability of these forest resources.

There will not be significant losses in terms of vegetables or edible tree species such as Tulip, Galip, Kapiak, Laulau and Marita (Pandanus specie) since these sites will be protected from logging. The main impacts will arise from shortage of animals (pigs, bandicoots, etc.) because they will most likely migrate to other areas including the protected reserves located within the project area. There is also potential for fish catches within the project area to be affected, especially prawns and other edible aquatic species within small streams. On the other hand, the loss of animals and edible tree species will be pronounced within areas that are selected for oil palm plantation. These plantation areas will be clear-felled for oil palm plantations.

Management

The management measures that will be implemented by the Developer in mitigating the impacts of loss of food sources are:

- (a) Marked out trees and plants regarded as sources of food for local villagers,
- (b) Established buffer zones to protect these food sources and prohibit logging from these sites, and
- (c) Prohibit non-landowner employees from involving in fishing, hunting or gathering of forest products.

7.1.6 Habitat Loss

There will not be loss of habitats within the project area that that will be subjected to selective logging. The impact will be temporary since displaced fauna will move into protected reserves within the project area or return after logging operation has ceased or move to other coupes.

However, habitat loss will be dramatic within sites designated for oil palm plantation. Clear felling and vegetation removal will destroy habitats within these sites. It is anticipated that the proposal by the Developer to establish "wildlife corridors" within oil palm plantations will ease the impacts of loss of habitats and allow for fauna and avifauna to migrate into reserves or other forested area.

7.2 Group (B) Impacts

Group (B) Impacts are the secondary socio-economic effects that are expected to manifest themselves and are best handled by the responsible National, Provincial or Local Level Government agencies. Examples of these issues are – social structure, law and order, migration and population issues, inadequate infrastructure concerns, historical and cultural issues, etc.

7.2.1 Social Structure

The community structure within the project area is based on customary groups which come together to form a tribe. The primary social unit is the clan, which comprised of immediate and extended family units. Matrilineal structure is practiced within the LLG areas where the female head of the family takes charge of all decisions relating to the land and customary welfare of the family unit. Therefore, land and other material ownership are passed onto the female offspring who inherit ownership of the land and all the plants, fruit species, etc that are available on the family land.

The Developer will ensure that the agro-forestry operation does not in any way affect the social structure of the landowners within the project area.

7.2.2 Law and Order

Immigration of people into the Central/Inland Pomio, West Pomio/Mamusi and Melkoi LLG areas in search of job and business opportunities will result in possible law and order issues due to cultural indifferences. Access to cash economy may also result in misuse of money through spending in unnecessary items such as alcohol, which will give rise to alcohol-related issues. It is also possible that settlement of non-landowners in customary land will lead to dispute and possible classes between landowners of the resource area and outsiders.

Since the project is the initiative of the Pomio Open Member with support from the Central/Inland Pomio, West Pomio/Mamusi and Melkoi people and the LLGs' and Provincial Government Members, a Law and Order Plan will be formulated between the three levels of Government to manage any potential law and order issues.

7.2.3 Migration and Population Issue

Immigration of people from outside the Central/Inland Pomio, West Pomio/Mamusi and Melkoi LLG areas may occur especially in search of job and business opportunities. The movement of outsiders into the project area will result in a drastic increase in population. This will impose unnecessary burden on the Central/Inland Pomio, West Pomio/Mamusi and Melkoi LLGs' and Pomio District in providing social services under existing budgetary constraints.

The scenario will be minimized or even averted due to the fact that most of the land within and adjacent to the project area are all customary owned and settlement of non-landowners on traditional land will not be tolerated.

7.2.4 Historical and Cultural Issues

Sites of historical and cultural values within the project area will be identified with the assistance of the landowners and the National Museum. These sites are held as sacred by the resource owners and the PNG Government (e.g. war relics) and will be set-aside as historical and cultural reserves. Buffer zones will be established and logging operation will not take place within these reserves.

Historical and cultural sites will also be an important consideration when deciding on the suitable locations for establishing oil palm plantations in order to ensure that the activity does not encroached on the reserve.

However, the same can not be guaranteed for historical and cultural sites located outside of the project area.

8. Availability of Baseline Information/Data

Baseline environmental data are crucial in assessing the impacts (whether positive or negative) of the agro-forestry project overtime.

For this particular purpose, a biological and physical environmental survey will be conducted as part of the impact assessment study to collate all baseline data from the project area.

8.1 Biological Data

The survey would investigate availability of flora and fauna species within the island of New Britain and those that occur within the project area. A number of surveys have been conducted in the past and references are available from various organizations including DEC. These reference materials will be used to check against the data collected from the biological survey to ensure that a comprehensive list of flora and fauna species within the project area is presented in the impact statement.

Through the ground survey complemented with the desk-top research, the Developer will be able to determine if there are protected or endangered species available within the project area and which may require protection during the implementation phase of the agro-forestry activity.

8.2 Physical Environmental Data

Baseline data for the physical environment, including air, water and land components will be collected during the impact assessment study of the project area. The survey will attempt to gather, as much as possible, baseline data from in-situ measurements.

Field data will include water quality data that will be obtained through water sampling and analysis. Hydrology data will also be collected within the field while others will be obtained from DEC or the Department of Works (bridge construction). In general, water quality within the project area is characterized as having high turbidity and low clarity in certain major rivers (e.g. Unung River, Tolo River, etc.) while smaller streams contains low turbidity with good clarity.

Data on air quality and noise pollution will be difficult to obtain in the field and therefore reference materials will be used to discuss these baseline characteristics. However, the air quality and noise pollution levels within the project area is classified as pristine and these background levels will be protected and used as reference in assessing impacts of the agro-forestry project overtime.

Rainfall data within the project area will be source from the meteorological data set recorded at Tokua Airport in Kokopo. Since there is no meteorological recording station at Pomio, data obtained will be extrapolated to give an approximate rainfall data set of annual rainfall pattern within the project area.

Present data-set on climatic regime within Pomio District indicated that the project area experience a north-west and south-east monsoons. Average rainfalls are about 3,000 millimeters per year. Temperatures vary only slightly and ranges from 24-31 degree Celsius. Dry season occurs during October to April while wet season is experience from May to September, annually.

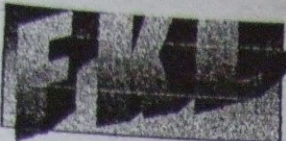
8.3 Socio-Economic Data

Socio-economic data within Central/Inland Pomio, West Pomio/Mamusi and Melkoi LLGs indicated that the Memalo Holdings Limited area has the only remaining strand of merchantable forest within the LLG areas. Agricultural cultivation involving cocoa, copra and coffee has declined drastically due to the lack of a reliable transport infrastructure to transport the cash crops to the markets in Kimbe and Rabaul.

The current shipping service provided by MV. Sunmil is inadequate since it does not have the capacity to transport both the passengers and the cash crops to the markets in Kokopo. Consequently the existing small holder plantations have been left idle and not attended to. People within the project area including the resource owners currently resort to fishing and substance gardening for their own consumption.

With this lack of economic development within Pomio District and between Central/Inland Pomio, West Pomio/Mamusi and Melkoi LLG areas, social services in terms of health and education is barely in existence. This was highlighted in the PNG-AusAID Study in which Pomio District was ranked as one of the least developed districts of PNG.

Baseline data on the existing socio-economic situation within the project area and Pomio District in general will be investigated in detail during the impact assessment study. Statistics on health status, education level and other socio-economic indicators are available from Government Agencies in Pomio District and the Province. Other data will be obtained from relevant National Government Agencies. All these information will be obtained from relevant National Government Agencies. All these information will be provided in the Environment Impact Statement and submitted to DEC.



Section 467, Allotment 17
Pitpit Street, North Waigani
P.O. Box 1958
PORT MORESBY
National Capital District

Telephone : 6877190
Facsimile : 3250699

22nd June 2006.

The Managing Director
SITITA (PNG) LIMITED
P O Box 141
GORDONS
National Capital District.

Dear Sir,

**RE: YOUR BREACH AND FRUSTRATION OF THE AGREEMENT DATED
THE 10TH DECEMBER 2005**

We act for MEMALO HOLDINGS LIMITED on instructions to ascertain and determine whether there has been a substantial breach of the Agreement between yourself and Memalo Holdings Limited to warrant frustration and termination of the Agreement.

Our scrutiny and construction of the Agreement between SITITA (PNG) LIMITED and MEMALO HOLDINGS LIMITED, confirms substantial breaches by SITITA (PNG) LIMITED in the following manner:

1. That pursuant to Clause "A" the parties agree that Memalo Holdings Limited is the corporate vehicle through which the promotion and development of the SIGITE-MUKUS INTEGRATED RURAL DEVELOPMENT PROJECT which the Logging Operation and various infrastructure development and Agricultural developmental projects in the Pomio District would be facilitated. It is expressed by the parties that Memalo Holdings Limited is a body corporate representing the Customary Landowners and possesses the full authority of the customary landowners to deal with fostering the development of Logging Operation, as well as Infrastructural Developments and other Agricultural Developments, as are envisaged by the parties.
2. That the most fundamental term of the Agreement between the parties is stipulated in Clause "B" of the Agreement the SITITA (PNG) Limited or SNL agrees to make available funds or monies to MEMALO HOLDINGS LIMITED as Loan to be used to promote the SIGITE-MUKUS INTEGRATED RURAL DEVELOPMENT PROJECT.

3. That SITITA (PNG) LIMITED is to transact into MEMALO HOLDINGS Account an amount of K 20, 000.00 as an advance Loan upon signing of the Agreement to promote Logging, Infrastructural and Agricultural Projects as agreed by the parties.

We are of the view that the agreement by SITITA (PNG) LIMITED or SNL to continuously make available such funding would enable MEMALO HOLDINGS LIMITED to effectively operate an office so to organize, plan and monitor the preparation of the people of the proposed SIGITE_MUKUS Integrated Development Area to be involved in activities geared towards promoting developments as anticipated and expressly agreed by the parties.

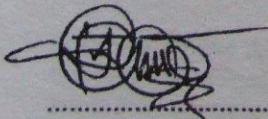
We are therefore of the view that SITITA (PNG) LIMITED or SNL has substantially breached Clause "B" of the Agreement by ceasing to continuously provide funds as expressed in the Agreement dated 10th December 2005. The said breach has now Frustrated the entire Agreement, as being terminated between the parties.

The breach by SITITA (PNG) LIMITED has affected or impacted on the whole of the Agreement between the parties and the expressed terms of the Agreement contained in Schedules One, Two and Three have all been frustrated.

We are finally of the view that MEMALO HOLDINGS LIMITED is therefore under no obligation to be bound by the terms of the Agreement, because SITITA (PNG) is solely liable for substantially breaching Clause "B" of the Agreement dated the 10th December 2005, and the Agreement has been frustrated or terminated by themselves.

We therefore consider that the Agreement has been terminated and is effectively at an end.

Yours Sincerely,
FRANKIE KOMANG LAWYERS



cc: Mr. John Parulria, Chairman, MEMALO HOLDINGS LIMITED

Honourable PAUL TIENSTEIN, MP



**EAST NEW BRITAIN PROVINCIAL ADMINISTRATION
OFFICE OF THE PROVINCIAL ADMINISTRATOR**

Telephone: (675) 983 7470/983 7471

Facsimile: (675) 983 7070

E-mail: enbpa@global.net.pg

P.O. Box 714

RABAU

East New Britain Province
Papua New Guinea

The Managing Director
National Forest Service
P.O.Box 5055
BOROKO
Papua New Guinea

14th July, 2005

Dear Sir,

RE: SIGITE – MUKUS INTERGRATED RURAL DEVELOPMENT PROJECT

The above project will cover the Unung Sigite, Melkoi blocks 1,2 and 3, the upper Nakanai plateau and the Mukus Tolo areas.

The Sigite-Mukus Intergarted Rural Development Project area lies within the Local Level Governments of namely, Meloki, West Pomio/Mamusi Central/Inland Pomio within Pomio District.

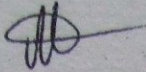
Through the proposed Sigire-Mukus Intergarted Rural Project the people of Pomio wish to develop their forest resources to help establish the roads & bridges infrastructure and economic developments. These the government strongly believe will benefit the District and its people, East New Britain and PNG as a whole.

On the 28th June Provincial Executive Council meeting and the Provincial Assembly Meeting on 4th to 8th of July 2005, approved the Project.

I now certify that the roads to be constructed within the project area are in line with the Government of East New Britain Province and that the responsibility to maintain the roads infrastructure is with the Provincial Government and that the Provincial Government undertakes that it can and will maintain the road built after the Developer has completed its operation.

Yours faithfully,

"Supporting Tourism in East New Britain Province"



AKULA TUBAL
Provincial Administrator

CONFIDENTIAL



EAST NEW BRITAIN PROVINCIAL GOVERNMENT PROVINCIAL EXECUTIVE COUNCIL

DECISION No: 30/2005

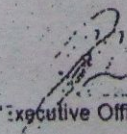
MEETING No: 04/2005

SUBJECT: SIGITE-MUKUS INTEGRATED DEVELOPMENT PROPOSAL

That the Provincial Executive Council:

1. Takes note of this submission.
2. Endorses this project.

I certify the above to be correct record of the
Decision reached by the Provincial Executive Council


Executive Officer, P.E.C.


Chairman

Date _____
Distribution: _____

CONFIDENTIAL

00006130125

PAPUA NEW GUINEA
Companies Act 1997

Form 5

Sections 14 & 442

Company Number 1-51450

CERTIFICATE OF INCORPORATION

I certify that

MEMALO HOLDINGS LIMITED

is, on and from 26 May 2004,

incorporated under the *Companies Act 1997*.

Given under my hand and seal on 26 May 2004.



Teup Goledu
Registrar of Companies.

Act, Sec. 111

INDEPENDENT STATE OF PAPUA NEW GUINEA
Forestry Act 1991

Form 3

Certificate of Registration as Forest Industry Participant

This is to certify that **Memalo Holdings Limited**

of
P O Box 818
RABAU
East New Britain Province
Papua New Guinea

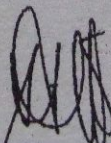
is registered under Part IV of the Forestry Act 1991 in respect of the activities set out in Schedule 1 of this certificate.

Date of registration: **05-July-06**

Participant ID **MEMALO**
Registration number: **FI01766**

Schedule 1

- **HARVESTING OF FOREST PRODUCTS**
- **PROCESSING OF FOREST PRODUCTS**
- **SALE OF FOREST PRODUCTS**
- **PURCHASE OF FOREST PRODUCTS**



TERRY WARRA
Acting Managing Director
PNG Forest Authority

IMPORTANT NOTICE:

The Regulations require a registered forest industry participant to notify any change of the particulars contained in its application for registration within 28 days of the change. Failure to do so renders an offence liable to a fine and to having its registration cancelled.

The Regulations require a registered forest industry participant, before 1 June each year, to lodge the previous financial year's audited financial statement or annual report to shareholders. Failure to do so will result in automatic cancellation of registration unless a written explanation of inability to lodge a statement or report has been accepted in writing by the Managing Director.

AGREEMENT

SUMAS TIMBER & DEVELOPMENT INTERNATIONAL LIMITED P.O. BOX 6999,
BOROKO.
PAPUA NEW GUINEA

AGREEMENT

This Agreement is made the

7th

day of

May

2004.

BETWEEN :

Memalo Holdings Ltd of P.O. Box 818, Rabaul, East New Britain Province, a company duly incorporated under the laws of Papua New Guinea, hereinafter referred to as MHL,

AND

Sumas Timber & Development International Limited Ltd of P.O. Box 6999, Boroko, Papua New Guinea, a company duly registered under the laws of Papua New Guinea, hereinafter referred to as STD,

AND

The Honorable Paul Tiensten MP, Member of the National Parliament of Papua New Guinea representing the Open Electorate of Pomio, East New Britain Province, hereinafter referred to as HPT..


WHEREAS,

- A. HPT desirous of promotion development of Agricultural projects & Logging projects in, but not restricted to the Sigite to Ania areas of the Pomio District.
- B. MHL is the corporate vehicle through which the promotion of the development of Agricultural projects and logging operation in the Pomio District be facilitated. MHL has obtained the consents and agreements from the customary landowners of Pomio District and represents with full authority for the promotion of the development of Agricultural and logging operations. The consents and approvals from the customary landowners representatives are stated in **Schedule One** herein below,
- C. STD agrees to make available funds to HPT and MHL as a loan to be used to promote the oil palm development & logging project.

NOW IT IS HEREBY WITNESSED as follows:

1. The MHL, HPT and STD hereinafter referred as the "Parties" have mutually agreed that the oil palm projects is consequential to the harvesting of Timber in the Pomio District, particularly in the land generally described as follows; Land in the area commencing from Bain Village on the Sigite Gorge located in Central Inland Pomio to Tolova in the Nakana Range and ending at Amio at the Coast in the Melkoi LLG with West New Britain Province, an area comprising a total land area of approximately Three Hundred Thousand (300,000) hectares (hereinafter referred as the "Land") as shown in Map on **Schedule Two** and **Schedule Three** herein-below.
2. MHL and HPT, on behalf of the people of his electorate of Pomio shall receive and STD shall make available a sums of K300,000.00 on a loan basis to MHL and HPT to be used for the promotion of the Agricultural Development & Logging project in the Land .
3. The Parties mutually agree that the monies which are advanced by STD shall be for pre-operational cost and shall be advanced on an installment based on progress pursuant to and in accordance with **Schedule Four** herein-below.
4. The Parties mutually agree the all monies advanced by STD shall be reimbursed out of the eventual proceeds from the sales of Timber harvested from the Land .
5. MHL agrees that upon successful completion of the initial feasibility study of the logging and development of Agricultural operations in the Land shall grant the exclusive rights for the logging and marketing of timbers and development of Agricultural plantation in the Land to STD. MHL and HPT shall procure or caused to procure MHL and the customary landowners of the Land to enter into a Logging and Marketing Agreement(s) hereinafter referred as "LMA" and Agricultural Development Agreement(s) hereinafter referred as "Agricultural TA". The Principal terms and conditions of LMA and Agricultural TA are stated in **Schedule Five** herein below.
6. MHL and the HPT for and on behalf of the people of the Land further undertakes the following:
 - (i) indemnify STD for all the monies advanced for the cost of the feasibility studies and associate activities and the operations of the Memalo Office.
 - (ii) grant STD the exclusive rights over commercial activities associated with the harvesting and marketing of Timber and development of Agricultural Projects in the Pomio District..
7. MHL and HPT shall facilitate STD, its officers, employees and agents to enter upon any land in (but not restricted to) the Land t areas of the Pomio District, to conduct any and undertake such activity or activities, which will help determine the feasibility of the Timber project and viability of other development projects in the aforementioned areas.

8. MHL and HPT undertake to facilitate and grant STD, consistent with the spirit of the invitation and the wishes of the people of the areas specified the following undertakings;

- (i) exclusive rights to enter upon the Land and conduct any and such activity it considers necessary (but not restricted to the activities set out in **Schedule Four** herein-under) to enable STD to make a full assessment of the feasibility of the land and resource and the commercial viability of agriculture development under the STD's preferred development concept or regime;
 - (ii) to assist and support STD in every and all ways possible in the conduct of it's endeavors and at the same time, on HTP and MHL's part, foster among the people, good understanding of the intents and objects of the parties and to generally help prepare the people, in the event, STD decides after the feasibility activities to proceed further with development of oil palm and logging project upon the land in line with **Schedule Four** herein-below.
 - (iii) organize and foster where necessary, legally binding working arrangements between the customary landowners and STD upon normally accepted principles of conduct and in line with the spirit of their co-operative venture;
 - (iv) ensure at all times the support of the Government at all levels as in the State, Provincial and relevant Community Governments for the intents and objects of their co-operative venture;
 - (v) promote and foster the general interests of STD in the Pomio District, in so far as they relate to determining investment possibilities in (but not restricted to) large-scale commercial agriculture.
 - (vi) fund through MHL the operations of a Memalo Office that will organize, plan and monitor the preparation of the people of the proposal project areas and undertake any activities in relation to fostering and advancing the peoples support and participation in the proposed development projects and logging operations in line with **Schedule Four** herein-below.
 - (vii) Undertake to complete the feasibility study of logging operations and development of Agricultural Operations in the Land in accordance with time frame stated in **Schedule Four** herein below.
- 

- (viii) MHL and HPT acknowledge and agree that the duties and responsibilities of obtaining and securing the relevant timber permit(s) and other relevant approvals and licenses required for STD. This is to facilitate STD in the subsequent extraction and marketing of timbers from the Land in accordance with the provisions of the Papua New Guinea's Forestry Act 1991 (hereinafter referred as the "Forestry Act").

9. All parties agree that in the event Parties other than STD causes the termination of this Agreement then MHL and the HPT shall reimburse all monies advanced by STD under this Agreement.

10. In relation to the conduct of the feasibility studies and the exclusive rights granted STD's authorized representative(s) to enter upon the Land;

- (i) MHL and the HPT and his people shall ensure at all times that the rights of entry and work upon the land granted to STD are upheld and protected;
- (ii) MHL, customary landowners, and the HPT undertake and shall ensure that any personnel, equipment and machinery of STD authorized under this Agreement to enter upon and work on the Land in the target areas for the purposes of fulfilling the intents and objects of this Agreement **are not harmed, interfered with or prevented from executing their responsibilities.**

Variation

11. All parties mutually agree to variations to this Agreement in whole or in part, provided that any and such variations are for the purposes of strengthening their working relationships.

Qr

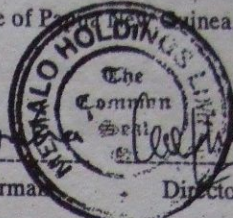
Termination

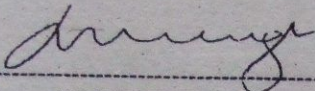
12. This Agreement may be terminate by mutual agreement of all Parties.

Law

13. The Law applicable shall be the laws of the Independent State of Papua New Guinea.


The COMMON SEAL of MHL
Was hereunto affixed pursuant to a Resolution of
The Board of Directors in the presence of

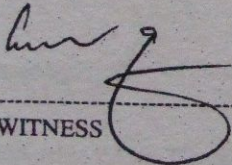
}  }
Chairman Director



WITNESS

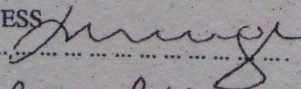
The COMMON SEAL of STD
Was hereunto affixed pursuant to a Resolution of
The Board of Directors in the presence of

 }
Chairman Director



WITNESS

The Honorable PAUL Tiensten, MP by his true hand

WITNESS 

Name BRUNO PAVOGE

Address

11 117

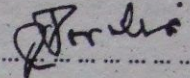
Schedule One

We, the undersigned, being the authorized representatives of the customary landowners of the Land as stated in this Agreement, hereby grant, acknowledge and consented (and such consent has not revoked or cancelled) to MHL and the HPT to enter into this Agreement on behalf of the customary landowners of the Land.

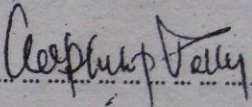
We hereby acknowledge and agree to be bound by the provisions of this Agreement and any subsequent agreement(s) but not limited to LMA, Roadline TA, Downstream TA and Agricultural TA to be entered by MHL on behalf of the customary landowners with STD or its nominees.

Signed and agreed by the Representatives of the Land:

Name: Jahn Parulria , Chairman

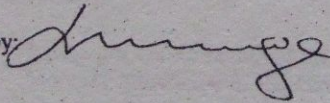
) 

Name: Joe Tali, Director

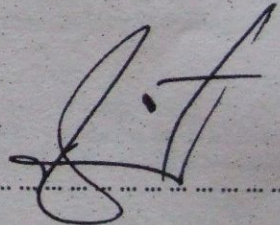
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Dated: 7-5-04

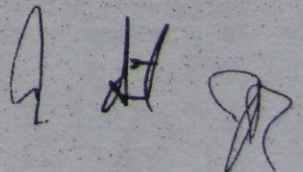
Witnessed by:



The Honorable PAUL Tiensten, MP by his true hand



Dated: 7-5-04



Schedule Five

The Principal terms and conditions of LMA and Agricultural TA to be executed by MHL, customary landowners and STD are stated herein below (The Principal terms are meant to serve as the key terms and conditions in the LMA and Agricultural TA to be entered):

Logging and Marketing Agreement (LMA)

1. MHL and the customary landowners shall procure and caused to procure all the relevant permit(s), approval(s) and licenses as required by the Forestry Act be obtained and granted in STD name or its nominees(s) name.
2. MHL and the customary landowners shall grant STD the logging and marketing of timbers to be extracted from the Land and or subsequent any downstream operations.
3. STD shall be granted with full authority and prerogative in appointing and nominating the any subcontractor(s), suppliers and marketing agent(s).
4. MHL and the customary landowners shall at all time assist and corporate with STD in complying with the provisions of the Forestry Act.
5. MHL and the customary landowners acknowledge that MHL and customary landowners do not have any vested interest, equity or any claims against STD or its nominees on any subsequent downstream activities other than the logging operations.
6. In consideration of entering into LMA, the MHL on behalf of the customary landowners shall be entitled to receive the following premium levy including of VAT and allowances:
 - ✓ 7 Kina per Cubic Meter of the export logs and sawmill logs.
 - ✓ Monthly allowance to the Directors of MHL of [] Kina (to be determined at a later stage) per month and the number of MHL directors shall be limited to 9 directors.

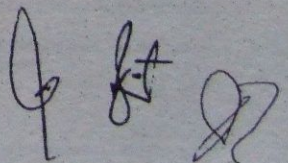
Agricultural TA

1. STD shall within reasonable time upon commencement of timbers logging operations in the Land proposes to MHL and customary landowners for an Identified Areas in the development of Oil Palm plantation or any other suitable agricultural operation on the Land.
 2. MHL and the customary landowners shall assist and procure to obtain all the relevant permit(s), approval(s) and licenses as required by STD or its nominees in the plantation and agricultural operations in the Identified Area.
- A H M

Schedule Five

3. MHL and the customary landowners shall grant STD or its nominees the plantation and marketing of the agricultural produces to be harvested from the Land or any subsequent downstream operations.
4. STD shall be granted with full authority and prerogative in appointing and nominating the any subcontractor(s), suppliers and marketing agent(s).
5. MHL and the customary landowners acknowledge that MHL and customary landowners do not have any vested interest, equity or any claims against STD or its nominees on any downstream activities deriving from the produces of the plantation or agricultural land other than the primary produces harvested from the agricultural operations.
6. MHL and the customary landowners shall grant and assist STD to apply for a 99 year lease on the Identified Areas for agricultural purposes.
7. In consideration of entering into Agricultural TA, the MHL on behalf of the customary landowners shall be entitled to receive the following premium levy including of VAT and allowances:
 - ✓ A share of [X] to be determined % of the primarily produces from the agricultural plantation.

The abovementioned Principal provisions in the LMA and Agricultural TA shall be reflected in the final version of the LMA and Agricultural TA together with other terms and conditions to be determined at a later stage.



*Land Groups Incorporation Act (Chapter 147)***NOTICE OF LODGEMENT OF APPLICATIONS FOR
RECOGNITION AS INCORPORATED LAND GROUPS**

PURSUANT to Section 33 of the *Land Groups Incorporation Act*, notice is hereby given that I have received application of customary groups of persons as incorporated land groups to be known by the names of:—

The said group claims the following qualifications for recognition as incorporated land groups:—

SCHEDULE	
ILG Names	ILG Numbers
Vaumu	11392
Una	11393
Geleme	11394
Kolekole	11395
Una	11396
Cham Piang	11397
Chamoso Maikcke	11398
Melkoi	11399
Pianga	11400
Katuma Simi	11401
Litipuna	11402
Wauka	11403
Pianga Avila	11404
Sale Kakuna	11405
Salu	11406
Ulo	11407
Kipolo	11408
Aluka	11409
Menem	11410
Una Amaia	11411
Simsim	11412
Kaikaie	11413
Una Avila	11414
Avila	11415
Pomlaks	11416

- (1) Its members belong to the West Pomio Area.
- (2) Its members regard themselves and are regarded by other members of the said clan as bound by the common customs and beliefs.
- (3) It owns customary land at West Pomio Local Level Government Area, East New Britain Province.

Dated this 2nd day of September, 2005.

M. TOLA,
A Delegate of the Registrar of Incorporated Land Groups.

*Land Groups Incorporation Act (Chapter 147)***NOTICE OF LODGEMENT OF AN APPLICATION FOR
RECOGNITION AS AN INCORPORATED LAND GROUP**

ILG No. 10555

PURSUANT to Section 33 of the *Land Groups Incorporation Act*, notice is hereby given that I have received an application of a customary group of persons as an incorporated land group to be known by the name of:—

Hehera Land Group Inc.

The said group claims the following qualifications for recognition as an incorporated land group:—

- (1) Its members belong to the Rove Village.
- (2) Its members regard themselves and are regarded by other members of the said clan as bound by the common customs and beliefs.
- (3) It owns customary land in Moripi Local Level Government Area, Gulf Province.

Dated this 22nd day of October, 2004.

M. TOLA,
A Delegate of the Registrar of Incorporated Land Groups.

*Land Groups Incorporation Act (Chapter 147)***NOTICE OF LODGEMENT OF APPLICATIONS FOR
RECOGNITION AS INCORPORATED LAND GROUPS**

PURSUANT to Section 33 of the *Land Groups Incorporation Act*, notice is hereby given that I have received application of customary groups of persons as incorporated land groups to be known by the names of:—

The said group claims the following qualifications for recognition as incorporated land groups:—

SCHEDULE	
ILG Names	ILG Numbers
Sale Peru	11344
Kolei Meresi	11345
Valinsuli	11346
Maile	11347
Litupuna	11348
Rama	11349
Kituna	11350
Komos	11351
Kivolo Uso	11352
Mangtuna	11353
Rama Vele	11354
Pianga	11355
Kolei	11356
Rama Sale	11357
Kolei	11358
Na'a	11359
Lipoma	11360
Seikuna	11361
Mamosi	11362
Mamasi	11363
Malopuna	11364
Sale	11365
Kae Giegie	11366
Vuru	11367

- (1) Its members belong to the West Pomio Area.
- (2) Its members regard themselves and are regarded by other members of the said clan as bound by the common customs and beliefs.
- (3) It owns customary land at West Pomio Local Level Government Area, East New Britain Province.

Dated this 2nd day of September, 2005.

M. TOLA,
A Delegate of the Registrar of Incorporated Land Groups.

*Land Groups Incorporation Act (Chapter 147)***NOTICE OF LODGEMENT OF AN APPLICATION FOR
RECOGNITION AS AN INCORPORATED LAND GROUP**

ILG No. 11273

PURSUANT to Section 33 of the *Land Groups Incorporation Act*, notice is hereby given that I have received an application of a customary group of persons as an incorporated land group to be known by the name of:—

Guba Land Group Inc.

The said group claims the following qualifications for recognition as an incorporated land group:—

- (1) Its members belong to the Keve'ona Village.
- (2) Its members regard themselves and are regarded by other members of the said clan as bound by the common customs and beliefs.
- (3) It owns customary land in Nara/Gabadi Local Level Government Area, Central Province.

Dated this 22nd day of July, 2005.

M. TOLA,
A Delegate of the Registrar of Incorporated Land Groups.

*Land Groups Incorporation Act (Chapter 147)***NOTICE OF LODGEMENT OF APPLICATIONS FOR
RECOGNITION AS INCORPORATED LAND GROUPS**

PURSUANT to Section 33 of the *Land Groups Incorporation Act*, notice is hereby given that I have received application of customary groups of persons as incorporated land groups to be known by the names of:—

The said group claims the following qualifications for recognition as incorporated land groups:—

SCHEDULE

ILG Names	ILG Numbers
Losnyana	11368
Vava	11369
Pilope	11370
Malopuna	11371
Lama	11372
Naga	11373
Sale	11374
Lavokea	11375
Wang	11376
Kolei Kapang	11377
Losoyang	11378
Na	11379
Kolei	11380
Vang	11381
Tatapuna	11382
Lipoma	11383
Kileng	11384
Saikuna	11385
Talutu	11386
Kiva	11387
Kituna	11388
Kae	11389
Malopuna	11390
Pilove	11391

- (1) Its members belong to the West Pomio Area.
- (2) Its members regard themselves and are regarded by other members of the said clan as bound by the common customs and beliefs.
- (3) It owns customary land at West Pomio Local Level Government Area, East New Britain Province.

Dated this 2nd day of September, 2005.

M. TOLA.

A Delegate of the Registrar of Incorporated Land Groups.

*Land Registration Act (Chapter 191)***ISSUE OF OFFICIAL COPY OF STATE LEASE**

NOTICE is hereby given that after the expiration of fourteen clear days from the date of publication of this Notice, it is my intention to issue an Official Copy of the State Lease referred to in the Schedule below under Section 162 of *Land Registration Act* (Chapter 191), it having been shown to my satisfaction that the registered proprietor's copy has been lost or destroyed.

SCHEDULE

State Lease Volume 28, Folio 6962 evidencing a leasehold estate in all that piece or parcel of land known as Allotment 12, Section 250, Hohola, NCD containing an area of 0.0600 hectares more or less the registered proprietor of which is Nicholas Naima and Ligor Naima.

Dated this 8th day of September, 2005.

T. PISAE,
Deputy Registrar of Titles.

Companies Act 1997
Company Number 1-47963**NOTICE OF INTENTION TO REINSTATE A COMPANY
REMOVED FROM THE REGISTER OF REGISTERED
COMPANIES**

I, Elvis Won Tsen Tseu of P.O. Box 8810, Boroko, NCD give notice that I intend to apply to the Registrar of Companies to reinstate Universal Entertainment & Trading Ltd, a company that was removed from the Register of registered companies on the 2nd March, 2005, and give notice that my grounds of application will be that:—

1. I a Shareholder/Director at the time of the removal of the Company from the Register; and
2. Still carrying on business at the time of removal of the Company from the Register; and
3. The company should not have been removed from the Register.

Dated this 28th day of May, 2005.

E.W.T. TSEU,
Signature of person giving this Notice.

This Notice has been approved by the Registrar of Companies.

Dated this 16th day of August, 2005.

T. GOLEDU,
Registrar of Companies.

Note:—A person may within one month after the publication of this Notice, lodge with the Registrar of Companies an objection and reasons thereof to the reinstatement of the defunct company in accordance with Section 378(3)(d) of the Companies Act 1997.

Companies Act 1997
Company Number 1-45200**NOTICE OF INTENTION TO REINSTATE A COMPANY
REMOVED FROM THE REGISTER OF REGISTERED
COMPANIES**

I, P. G. Haji Hassan Zahari of P.O. Box 8810, Boroko, NCD give notice that I intend to apply to the Registrar of Companies to reinstate Movie Galaxy Home Entertainment Centre Ltd, a company that was removed from the Register of registered companies on the 2nd March, 2005, and give notice that my grounds of application will be that:—

1. I a Shareholder/Director at the time of the removal of the Company from the Register; and
2. Still carrying on business at the time of removal of the Company from the Register; and
3. The company should not have been removed from the Register.

Dated this 28th day of May, 2005.

P. G. H. H. ZAHARI,
Signature of person giving this Notice.

This Notice has been approved by the Registrar of Companies.

Dated this 16th day of August, 2005.

T. GOLEDU,
Registrar of Companies.

Note:—A person may within one month after the publication of this Notice, lodge with the Registrar of Companies an objection and reasons thereof to the reinstatement of the defunct company in accordance with Section 378(3)(d) of the Companies Act 1997.

Address for Service

MU VILLAGE
WEST MAMUSI
POMIO
EAST NEW BRITAIN
PAPUA NEW GUINEA
Start Date: 26 May 2004
End Date:

PO BOX 27
KOKOPO
EAST NEW BRITAIN
PAPUA NEW GUINEA
Start Date: 26 May 2004
End Date:

Secretaries

Harry IOMA
Residential Address
MELETONG VILLAGE
MELKOI
POMIO
EAST NEW BRITAIN
PAPUA NEW GUINEA
Start Date: 26 May 2004
End Date:

Nationality: PAPUA NEW GUINEA

Postal Address
PO BOX 27
KOKOPO
EAST NEW BRITAIN
PAPUA NEW GUINEA
Start Date: 26 May 2004
End Date:

Documents on File (6)

<i>Document Number</i>	<i>Type</i>	<i>Date of Lodgement</i>
00006120630	CO1R	26 May 2004
00006120647	CO2	26 May 2004
00006120654	CO3	26 May 2004
00006120661	CO4	26 May 2004
00006130125	CO5	26 May 2004
00006120678	CO6	26 May 2004

The last annual return lodged

Report Start date

Report Start date

Return date

— END OF EXTRACT —

